

**Amendments to the Claims:**

This listing of claims will replace all prior versions and listings of claims in the application:

**Listing of Claims:**

1. (Currently Amended) A method for enhancing plant crop seed germination ; and seedling emergence or growth of a plant crop comprising the steps of:

providing a composition that comprises an effective amount of at least one lipo chitooligosaccharide (LCO) and an agriculturally suitable carrier; and

applying the composition in the immediate vicinity of a seed ; or seedling root or plant in an effective amount for enhancing seed germination ; or seedling emergence or growth of said plant in comparison to an untreated ~~plant~~ seed or seedling.

2. (Currently Amended) ~~The method according to claim 1, wherein said plant crop is a non-legume~~ A method for enhancing in a non-legume plant crop, seed germination, seedling emergence or growth of said plant crop comprising the steps of:

providing a composition that comprises an effective amount of at least one lipo chitooligosaccharide (LCO) and an agriculturally suitable carrier; and

applying the composition in the immediate vicinity of a seed, root or plant in an effective amount for enhancing seed germination, seedling emergence or growth of said plant in comparison to an untreated plant.

3. (Original) The method according to claim 2, wherein said plant crop is selected from the group consisting of Poaceae, Cucurbitaceae, Malvaceae, Asteraceae, Chenopodiaceae, Solanaceae and Brassicaceae.

4. (Original) The method according to claim 3, wherein said plant crop is selected from the group consisting of corn, cotton, cucumber, cantaloupe, lettuce, beet, canola and potato.

5. (Original) The method according to claim 1, wherein said LCO is obtainable from a rhizobia selected from the group consisting of *Bradyrhizobium japonicum*, *Rhizobium meliloti* and *Rhizobium leguminosarum*.
6. (Original) The method according to claim 5, wherein said LCO is present in said composition at a concentration of between about  $10^{-5}$  M to about  $10^{-14}$  M.
7. (Original) The method according to claim 5, wherein said LCO is present in said composition at a concentration of between about  $10^{-6}$  M to about  $10^{-12}$  M.
8. (Original) The method according to claim 5, wherein said LCO is present in said composition at a concentration of between about  $10^{-7}$  M to about  $10^{-10}$  M.
9. (Currently Amended) The method according to claim I, wherein said composition is effective in enhancing seed germination or seedling emergence ~~or growth of a plant crop grown~~ under field conditions.
10. (Original) The method according to claim 1, wherein said plant is a member of the Fabaceae family.
11. (Original) The method according to claim 10, wherein said plant is selected from the group consisting of soybean, bean, alfalfa and clover.
12. (Original) The method according to claim 10, wherein said LCO is obtainable from a rhizobia selected from the group consisting of *Bradyrhizobium japonicum*, *Rhizobium meliloti* and *Rhizobium leguminosarum*.
13. (Original) The method according to claim 12, wherein said LCO is present in said composition at a concentration of between about  $10^{-5}$  M to about  $10^{-14}$  M.
14. (Original) The method according to claim 12, wherein said LCO is present in said composition at a concentration of between about  $10^{-6}$  M to about  $10^{-12}$  M.

15. (Original) The method according to claim 12, wherein said LCO is present in said composition at a concentration of between about  $10^{-7}$  M to about  $10^{-10}$  M.

16. (Currently Amended) The method according to claim 10, wherein said composition is effective in enhancing seed germination or seedling emergence ~~or growth of a plant crop grown~~ under field conditions.

17. (Original) A method for breaking the dormancy or quiescence of a plant comprising the steps of:

providing an agricultural composition comprising at least one lipo chitooligosaccharide (LCO) and an agriculturally suitable carrier; and

applying the composition in the immediate vicinity of a seed, tuber or root in an effective amount to enable a breaking of the dormancy or quiescence of the seed, tuber, or root, in comparison to an untreated seed, tuber, or root.

18. (Original) The method according to claim 17, wherein said plant is a member of the family of Solonaceae.

19. (Original) The method according to claim 18, wherein said plant is a potato.

20. (Original) The method according to claim 19, wherein said growth-promoting activity of said composition enables an increase in yield.

21. (Original) The method according to claim 19, wherein said composition further comprises gibberellic acid.

22-25 (Cancelled)

26. (Currently Amended) A method for enhancing seed germination; or seedling emergence ~~or growth~~ of a plant crop comprising the steps of:

providing a rhizobial strain that expresses a lipo chitooligosaccharide (LCO); and

incubating the rhizobial strain in the immediate vicinity of one of a seed or ~~root~~ seedling of said plant such that said LCO enhances seed germination, or seedling emergence ~~or growth~~ in comparison to a non-inoculated seed or ~~root~~, seedling of said plant.

27. (Currently Amended) ~~The method of claim 26, wherein said plant crop is a non-legume~~ A method for enhancing in a non-legume, seed germination, seedling emergence or growth of a plant crop comprising the steps of:

providing a rhizobial strain that expresses a lipo chitooligosaccharide (LCO); and

incubating the rhizobial strain in the immediate vicinity of one of a seed or root of said plant such that said LCO enhances seed germination, seedling emergence or growth of said plant crop, wherein said incubation enhances seed germination, seedling emergence or growth in comparison to a non-inoculated seed or root of said plant.

28. (Original) The method of claim 27, wherein said plant crop is selected from the group consisting of Poaceae, Cucurbitaceae, Malvaceae, Asteraceae, Chenopodiaceae, Solanaceae and Brassicaceae.

29. (Original) The method of claim 28, wherein said plant crop is selected from the group consisting of corn, cotton, cucumber, cantaloupe, lettuce, beet, canola and potato.

30. (Original) The method of claim 26, wherein said rhizobia is selected from *Bradyrhizobium japonicum*, *Rhizobium meliloti* and *Rhizobium leguminosarum*.

31. (Currently Amended) The method of claim 26, wherein said LCO enhances seed germination or seedling emergence ~~or growth of said plant grown~~ under field conditions.

32. (Currently Amended) The method of claim 26, wherein said plant crop is a legume in the Fabaceae family and wherein said LCO enhances seed germination or seedling emergence ~~or growth of said legume grown~~ under field conditions.

33-34 (Cancelled)

35. (Original) The method of claim 17, wherein said composition comprises a bacterial strain which expresses said LCO.
36. (Original) The method of claim 35, wherein said bacterial strain is a rhizobial strain.
37. (Previously Presented) The method of claim 1, wherein said composition comprises a bacterial strain that expresses said LCO.
38. (Previously Presented) The method of claim 37, wherein said bacterial strain is a rhizobial strain.
39. (Currently Amended) A method for enhancing seed germination, or seedling emergence ~~or growth~~ of a plant crop comprising the steps of:
- providing a bacterial strain that expresses a lipo chitooligosaccharide (LCO); and
- incubating said bacterial strain in the immediate vicinity of one of a seed or ~~root~~ seedling of said plant such that said LCO enhances seed germination, or seedling emergence ~~or growth~~ of said plant crop, wherein said incubation enhances seed germination, or seedling emergence ~~or growth~~ in comparison to a non-inoculated seed or ~~root~~ seedling of said plant.
40. (Currently Amended) A method for enhancing seed germination, or seedling emergence ~~or growth~~ of a plant crop comprising the step of:
- providing a bacterial strain that expresses a lipo chitooligosaccharide (LCO) in the immediate vicinity of one of a seed or ~~root~~ seedling of said plant such that said bacterial strain, upon expression of said LCO, enhances seed germination, or seedling emergence ~~or growth~~ of said plant crop, in comparison to a non-treated seed or ~~root~~, seedling of said plant.
41. (Previously Presented) The method of claim 40 wherein said bacterial strain is a rhizobial strain.